Antarctic Meteorite Newsletter

Volume 28, Number 2 August 2005

A periodical issued by the Meteorite Working Group to inform scientists of the basic characteristics of specimens recovered in the Antarctic.

Edited by Cecilia Satterwhite and Kevin Righter, NASA Johnson Space Center, Houston, Texas 77058

Curator's Comments

Kevin Righter, NASA-JSC

New Meteorites

This newsletter contains classifications for 274 new meteorites from the 2003 and 2004 ANSMET collections. They include samples from the Cumulus Hills, Larkman Nunatak, LaPaz Ice Field, MacAlpine Hills, Dominion Range, Miller Range, Roberts Massif, and Sandford Cliffs. Petrographic descriptions are given for 33 of the new meteorites; 19 pallasites, 2 ureilites, 1 anomalous ureilite, 1 unusual aubrite, a mesosiderite clast, 1 unbrecciated eucrite, 2 CK, 2 CM, and 1 CO3 chondrites, 2 type 3 ordinary chondrites, and a small iron. Several of these new meteorites are paired with samples from previous newsletters (see Table 3). The two new CK chondrites bring the number of US Antarctic CK's to a total of 77 (20 unique meteorites with pairings).

Pallasites are rare among Antarctica meteorites. Previously there have been only 8 recovered: PCA 91004, PCA 91005, PCA 91388, QUE 93544 (ANSMET), GRV 020099 (PRIC collection), Thiel Mountains (main mass at NMNH) and Y74044, and Y8451 (NIPR collection). CMS 04069 (44.7 kg) and its 18 pairs from Cumulus Hills total 170.55 kg, by far the largest pallasite yet recovered from Antarctica.

CMS 04049 is a beautiful unbrecciated eucrite. Its coarse grained nature is similar to a few other unbrecciated eucrites in the collection, including PCA 91245 and GRA 98098. Pictures of each of these have recently been added to our website, and are shown here for comparison to the images of the new sample CMS 04049. Finally, we have two very unusual achondrites in the newsletter. LAR 04315 is an anomalous ureilite that contains many interesting features described within by Tim McCoy, and LAR 04316 is an aubrite that contains a rare basaltic vitrophyre clast similar to those described by Fogel (GCA 69, 1633-1648) in Khor Temiki and LEW 87007.

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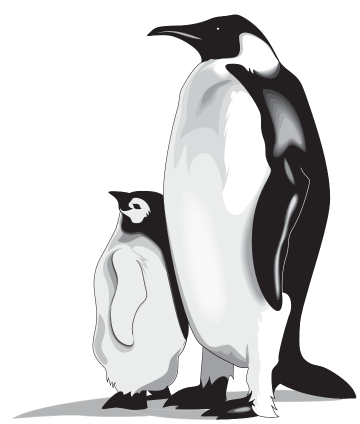
Inside this Issue



Sample Request Deadline Sept. 15, 2005

MWG Meets Sept. 29-30, 2005

Requesting samples

In light of several requests we have received, we have decided to reiterate a few points when writing sample requests. First, the Meteorite Working Group (MWG) meets twice a year to make recommendations regarding requests for scientific study of meteorites. The MWG members can most effectively judge the merits of a study when the descriptions are concise yet informative. For example, when someone states "I need this meteorite for my research", that is not very helpful, because the research is not mentioned, nor is the reason given for the need. Please give a brief description of the research, along with an explanation of why these particular samples are of interest. Second, sometimes we receive multiple requests from one investigator for the same deadline. Although we realize that sometimes this is unavoidable, please try to keep all requests on one form.

Lunar Meteorite Compendium

Work is continuing on the Lunar Meteorite Compendium. Draft chapters have been completed for six of the US Antarctic meteorites - ALHA81005 (the first recognized lunar meteorite), MAC 88105, LAP 02205 (and their pairings) QUE 93069/94269, QUE 94281, and EET 87521/96008. Processing sketches and genealogy charts have been prepared for these meteorites, and will soon be posted on our website. In addition, chapters are underway for the other lunar meteorites in our collections –MET 01210 and PCA 02007, as well as others such a Y86032 and it's paired masses (Y82192 and 82193). In the meantime if you have some lunar meteorite publications that you think may be relevant to such a project, please send them to *kevin.righter-1@nasa.gov*. A few of you have done this already, and it has been very beneficial - thank you!

Report on the 2005-2006 Field Season

Ralph Harvey, Principal Investigator
Antarctic Search for Meteorites (ANSMET) program

In about 8 weeks we're going to be starting a new ANSMET season that promises to be one of the most challenging and potentially rewarding in a long time. But because of problems getting funding delivered and people put in the right places at the right times, preparations haven't been where they should be and there's still too much left to do. Only in the last few days has it been clear how many field parties we'd have, and field team membership is still in flux.

As in recent past seasons, ANSMET will send out two field parties. The first, a party of eight, will deploy to the Miller Range to begin systematic searching of the ice fields. This place has a lot of potential. It's been visited three times before, and each time field party members found meteorites in their path no matter the direction they were traveling. It's also where ANSMET found its most recent martian meteorite, the nakhlite MIL 03346, during a reconnaissance visit in 2003. I can't wait to see what else is out there!

The second team, dedicated to reconnaissance, has what can only be described as a "Groovy Retro-style" trip ahead of them (and here I feel obligated to add the phrase "Right On"). In a throwback to the very first days of ANSMET, the reconnaissance team of four will be conducting a snowmobile traverse southwards from the southern end of the Allan Hills region, visiting a number of modest-sized ice fields scattered along the ice sheet above the Dry Valleys. Some of these sites were among the very first looked at by Bill Cassidy and colleagues 30 years ago; and since those days there have been some serendipitous discoveries and advances in our understanding of meteorite concentrations that strongly encouraged us to have another look. Moving camp every 5 to 7 days, the goal of the recon team will be to give us the final word on the ice fields easily reached from McMurdo, cleaning up all the recoverable specimens they can.

There's even a third field team this year! I'll be leading a group of four returning to the Lewis Cliff Ice Tongue to study local evaporites as a potential martian analog. While this third team is not really a part of ANSMET, we are sharing logistics and expertise and of course, keeping our eyes open for meteorites.

New Meteorites

2003-2004 Collection

Pages 4-19 contain preliminary descriptions and classifications of meteorites that were completed since publication of issue 28 (1), Feb. 2005. Specimens of special petrologic type (carbonaceous chondrite, unequilibrated ordinary chondrite, achondrite, etc.) are represented by separate descriptions unless they are paired with previously described meteorites. However, some specimens of non-special petrologic type are listed only as single line entries in Table 1. For convenience, new specimens of special petrological type are also recast in Table 2.

Macroscopic descriptions of stony meteorites were performed at NASA/JSC. These descriptions summarize hand-specimen features observed during inital examination. Classification is based on microscopic petrography and reconnaissance-level electron microprobe analyses using polished sections prepared from a small chip of each meteorite. For each stony meteorite the sample number assigned to the preliminary examination section is included. In some cases, however, a single microscopic description was based on thin sections of several specimens believed to be members of a single fall.

Meteorite descriptions contained in this issue were contributed by the following individuals:

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Tim McCoy, Linda Welzenbach, Cari Corrigan, and Allison Gale
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Antarctic Meteorite Locations

ALH — Allan Hills
BEC — Beckett Nunatak
BOW — Bowden Neve
BTN — Bates Nunataks
CMS — Cumulus Hills
CRE — Mt. Crean
DAV — David Glacier
DEW — Mt. DeWitt
DOM — Dominion Range
DRP — Derrick Peak
EET — Elephant Moraine
FIN — Finger Ridge
GDR — Gardner Ridge
GEO — Geologists Range
GRA — Graves Nunataks
GRO — Grosvenor Mountains
HOW — Mt. Howe
ILD — Inland Forts
KLE — Klein Ice Field
LAP — LaPaz Ice Field
LAR — Larkman Nunatak
LEW — Lewis Cliff
LON — Lonewolf Nunataks
MAC — MacAlpine Hills
MBR — Mount Baldr
MCY — MacKay Glacier
MET — Meteorite Hills
MIL — Miller Range
ODE — Odell Glacier
OTT — Outpost Nunatak
PAT — Patuxent Range
PCA — Pecora Escarpment
PGP — Purgatory Peak
PRA — Mt. Pratt
PRE — Mt. Prestrud
QUE — Queen Alexandra Range
RBT — Roberts Massif
RKP — Reckling Peak
SAN — Sandford Cliffs
SCO — Scott Glacier
STE — Stewart Hills
TEN — Tentacle Ridge
TIL — Thiel Mountains
TYR — Taylor Glacier
WIS — Wisconsin Range
WSG — Mt. Wisting

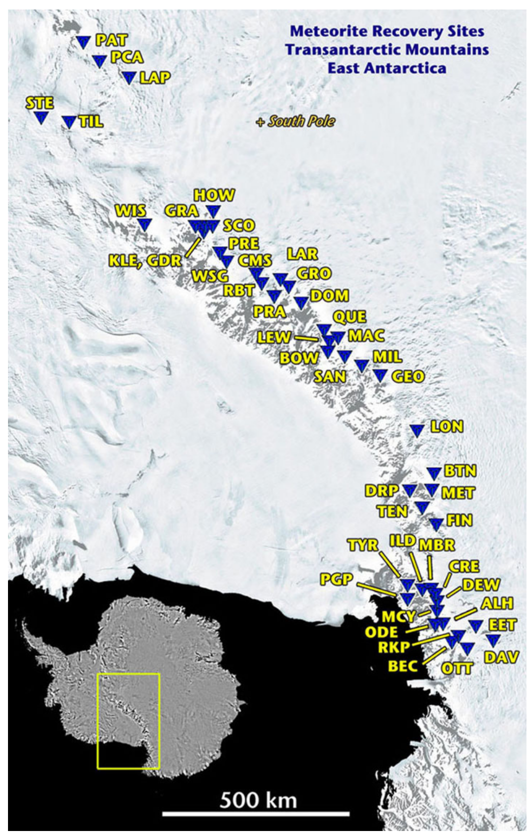

Table 1

List of Newly Classified Antarctic Meteorites **

Sample Number		Weight (g)	Classification	Weathering	Fracturing	% Fa	% Fs
DOM 03180	~	219.9	H5 CHONDRITE	C	A		
DOM 03185	~	928.0	LL5 CHONDRITE	A/B	A		
DOM 03186	~	1494.2	L5 CHONDRITE	B/C	B/C		
DOM 03187	~	845.6	LL5 CHONDRITE	B/C	A/B		
DOM 03188	~	701.4	L5 CHONDRITE	C	C		
DOM 03189	~	1005.4	L5 CHONDRITE	C	B		
DOM 03190	~	504.0	L5 CHONDRITE	C	A/B		
DOM 03191	~	594.4	H5 CHONDRITE	C	C		
DOM 03192	~	227.4	L5 CHONDRITE	B/C	A/B		
DOM 03193	~	298.7	H5 CHONDRITE	C	A/B		
DOM 03194	~	213.1	LL5 CHONDRITE	A	A/B		
DOM 03195	~	225.9	LL6 CHONDRITE	A	A/B		
DOM 03196	~	142.3	LL6 CHONDRITE	A	A		
DOM 03197	~	188.6	LL5 CHONDRITE	A	A		
DOM 03198	~	261.8	LL5 CHONDRITE	B	A/B		
DOM 03199	~	143.9	H5 CHONDRITE	B	A/B		
DOM 03200	~	147.8	L5 CHONDRITE	C	C		
DOM 03201		114.6	L3 CHONDRITE	C	B	2-31	3-27
DOM 03202	~	116.3	L5 CHONDRITE	B/C	A/B		
DOM 03203	~	116.2	L5 CHONDRITE	B/C	A/B		
DOM 03204	~	93.2	L5 CHONDRITE	C	C		
DOM 03205	~	67.6	H5 CHONDRITE	C	A/B		
DOM 03206	~	70.2	H4 CHONDRITE	C	A/B		
DOM 03207	~	65.7	H5 CHONDRITE	C	A/B		
DOM 03208	~	110.5	LL5 CHONDRITE	A	A/B		
DOM 03209	~	78.8	H5 CHONDRITE	C	A/B		
DOM 03210	~	45.8	L5 CHONDRITE	B/C	B		
DOM 03211	~	79.9	L5 CHONDRITE	B/C	B		
DOM 03212	~	47.0	L5 CHONDRITE	B/C	B		
DOM 03213	~	50.3	LL5 CHONDRITE	A/B	A/B		
DOM 03214	~	44.4	H5 CHONDRITE	C	B		
DOM 03215	~	17.3	H5 CHONDRITE	C	B		
DOM 03216	~	15.5	H5 CHONDRITE	C	A/B		
DOM 03217		28.8	LL5 CHONDRITE	A/B	A/B	29	24
DOM 03218	~	25.1	H5 CHONDRITE	C	A/B		
DOM 03219		36.7	H3 CHONDRITE	B	B	8-35	8-19
DOM 03220	~	45.1	H6 CHONDRITE	B	A/B		
DOM 03221	~	53.9	H5 CHONDRITE	C	A		
DOM 03222	~	26.4	H6 CHONDRITE	C	A		
DOM 03223	~	7.8	LL4 CHONDRITE	C	B		
DOM 03224	~	8.1	L5 CHONDRITE	A/B	B		
DOM 03225	~	11.6	L5 CHONDRITE	B	B		
DOM 03226	~	4.2	L5 CHONDRITE	A/B	A/B		
DOM 03227		3.7	LL5 CHONDRITE	B	A/B	31	26
DOM 03228	~	5.0	LL5 CHONDRITE	A/B	A/B		
DOM 03229	~	3.1	L5 CHONDRITE	A/B	A/B		
DOM 03230		3.3	LL5 CHONDRITE	B	A/B	31	25

~Classified by using refractive indices.

Sample Number		Weight (g)	Classification	Weathering	Fracturing	% Fa	% Fs
DOM 03231	~	3.8	LL6 CHONDRITE	A	A		
DOM 03232	~	5.9	L4 CHONDRITE	C	A/B		
DOM 03233	~	4.6	L5 CHONDRITE	C	A/B		
DOM 03234	~	17.0	L5 CHONDRITE	B	B		
DOM 03235	~	28.7	H4 CHONDRITE	C	B		
DOM 03236	~	21.0	H5 CHONDRITE	C	B		
DOM 03237	~	83.1	H6 CHONDRITE	C	B		
DOM 03238		54.2	CO3 CHONDRITE	B	A	1-55	1
DOM 03239	~	69.5	L6 CHONDRITE	B/C	A/B		
DOM 03240	~	290.9	LL5 CHONDRITE	A	A		
DOM 03241	~	95.0	LL6 CHONDRITE	B/C	B/C		
DOM 03242	~	67.2	H5 CHONDRITE	C	A/B		
DOM 03243	~	136.9	H5 CHONDRITE	C	A/B		
DOM 03244	~	91.3	LL5 CHONDRITE	B	B		
DOM 03245	~	262.4	LL5 CHONDRITE	B/C	B		
DOM 03246	~	73.1	L5 CHONDRITE	B/C	B		
DOM 03247	~	104.6	H5 CHONDRITE	C	B		
DOM 03248	~	90.0	LL5 CHONDRITE	A	A		
DOM 03249	~	20.5	LL5 CHONDRITE	A/B	A		
DOM 03250	~	604.3	LL5 CHONDRITE	A	A		
DOM 03251	~	674.8	LL5 CHONDRITE	B	B		
DOM 03252		404.4	H6 CHONDRITE	B	A/B	19	16
DOM 03253	~	1201.4	H5 CHONDRITE	C	B		
DOM 03254	~	548.4	LL5 CHONDRITE	A	A/B		
DOM 03255	~	433.9	L5 CHONDRITE	B	B		
DOM 03256	~	323.6	L5 CHONDRITE	C	B		
DOM 03257	~	341.0	LL5 CHONDRITE	A/B	A		
DOM 03258	~	393.8	LL5 CHONDRITE	B	A		
DOM 03259	~	395.9	LL6 CHONDRITE	A/B	A		
DOM 03263	~	95.3	LL6 CHONDRITE	A/B	A/B		
DOM 03264	~	83.3	L5 CHONDRITE	B	A/B		
DOM 03265	~	72.2	LL5 CHONDRITE	A/B	A/B		
DOM 03266	~	72.1	L5 CHONDRITE	A/B	A/B		
DOM 03267	~	72.5	LL5 CHONDRITE	A/B	A/B		
DOM 03268	~	49.6	LL5 CHONDRITE	B	B		
DOM 03269	~	61.8	LL5 CHONDRITE	A/B	A/B		
DOM 03290	~	13.1	L5 CHONDRITE	A/B	A/B		
DOM 03291	~	42.6	L5 CHONDRITE	C	A		
DOM 03292	~	52.2	H5 CHONDRITE	C	B/C		
DOM 03293	~	34.1	LL5 CHONDRITE	B	A/B		
DOM 03294	~	31.3	L5 CHONDRITE	B/C	B		
DOM 03295	~	20.6	L5 CHONDRITE	B/C	B		
DOM 03296	~	42.8	L5 CHONDRITE	B	B		
DOM 03297	~	11.0	LL6 CHONDRITE	B	B		
DOM 03298	~	9.9	L6 CHONDRITE	C	A/B		
DOM 03299	~	18.2	L5 CHONDRITE	C	B		
DOM 03300	~	21.4	L5 CHONDRITE	B	A		
DOM 03301	~	15.7	L5 CHONDRITE	B	A		
DOM 03302	~	13.1	L5 CHONDRITE	B/C	B		
DOM 03303	~	21.3	LL5 CHONDRITE	B	A		
DOM 03304	~	13.0	L5 CHONDRITE	B	A		
DOM 03305	~	26.4	LL5 CHONDRITE	C	A/B		
DOM 03306	~	21.0	H4 CHONDRITE	B/C	A/B		
DOM 03307	~	14.5	L5 CHONDRITE	B/C	A/B		

~Classified by using refractive indices.

Sample Number		Weight (g)	Classification	Weathering	Fracturing	% Fa	% Fs
DOM 03308	~	37.6	LL5 CHONDRITE	B	A/B		
DOM 03309	~	38.2	H5 CHONDRITE	C	A/B		
GRO 03001	~	29000.0	L5 CHONDRITE	C	C		
GRO 03002	~	28000.0	L5 CHONDRITE	C	C		
LAP 03550	~	16000.0	L5 CHONDRITE	B	B		
LAP 03553		6422.7	H4 CHONDRITE	B	B	24	10-18
LAP 03830	~	11.7	LL5 CHONDRITE	A/B	A		
LAP 03831	~	21.1	H6 CHONDRITE	B/C	A/B		
LAP 03832	~	18.9	H6 CHONDRITE	B/C	A		
LAP 03833	~	28.5	LL5 CHONDRITE	B/C	A/B		
LAP 03835	~	17.5	H5 CHONDRITE	B/C	A/B		
LAP 03836	~	32.0	LL5 CHONDRITE	A/B	A/B		
LAP 03837	~	7.2	LL5 CHONDRITE	A/B	A		
LAP 03838	~	23.7	H6 CHONDRITE	B/C	A/B		
LAP 03839	~	6.8	H6 CHONDRITE	B/C	B/C		
LAP 03850	~	0.4	L5 CHONDRITE	B	A		
LAP 03852	~	0.4	LL5 CHONDRITE	B	A		
LAP 03853	~	1.2	LL5 CHONDRITE	B	A/B		
LAP 03854	~	2.4	LL5 CHONDRITE	C	A		
LAP 03855	~	0.8	H5 CHONDRITE	B	A		
LAP 03856	~	1.9	LL5 CHONDRITE	A/B	A		
LAP 03857	~	0.5	H6 CHONDRITE	B	A		
LAP 03858	~	1.6	H5 CHONDRITE	B/C	A		
LAP 03859	~	6.5	LL5 CHONDRITE	B/C	A		
LAP 03860	~	6.3	LL4 CHONDRITE	B	B		
LAP 03861	~	6.4	LL5 CHONDRITE	B	B		
LAP 03862	~	9.6	LL5 CHONDRITE	A/B	A/B		
LAP 03863	~	6.4	LL5 CHONDRITE	C	A/B		
LAP 03864	~	8.0	L5 CHONDRITE	C	A/B		
LAP 03866	~	10.2	LL5 CHONDRITE	B	B		
LAP 03867	~	23.0	LL5 CHONDRITE	A/B	A/B		
LAP 03868	~	24.9	LL5 CHONDRITE	A	A/B		
LAP 03869	~	15.3	LL5 CHONDRITE	B/C	B		
LAP 03870	~	15.7	L5 CHONDRITE	C	A/B		
LAP 03871	~	11.9	LL5 CHONDRITE	B/C	B		
LAP 03872	~	16.2	L5 CHONDRITE	C	A/B		
LAP 03873	~	38.4	LL5 CHONDRITE	B/C	B		
LAP 03874	~	14.3	LL5 CHONDRITE	C	B		
LAP 03875	~	13.3	LL6 CHONDRITE	B/C	B		
LAP 03876	~	5.0	LL5 CHONDRITE	B/C	B		
LAP 03877	~	15.5	H6 CHONDRITE	C	B		
LAP 03878	~	17.6	LL5 CHONDRITE	A	A		
LAP 03879	~	23.1	LL5 CHONDRITE	B	B		
LAP 03890	~	1.6	L6 CHONDRITE	C	B		
LAP 03891	~	1.3	H6 CHONDRITE	C	A		
LAP 03892	~	4.1	LL5 CHONDRITE	C	B		
LAP 03893	~	4.2	LL5 CHONDRITE	C	B		
LAP 03894	~	3.5	H6 CHONDRITE	C	A		
LAP 03895	~	3.6	H5 CHONDRITE	C	B		
LAP 03896	~	0.7	LL6 CHONDRITE	A/B	A/B		
LAP 03897	~	7.1	LL5 CHONDRITE	C	B		
LAP 03898	~	6.4	LL5 CHONDRITE	C	B		

~Classified by using refractive indices.

Sample Number		Weight (g)	Classification	Weathering	Fracturing	% Fa	% Fs
LAP 03899	~	4.2	H6 CHONDRITE	C	A/B		
LAP 03910	~	4.1	L5 CHONDRITE	B/C	B		
LAP 03911	~	5.9	L5 CHONDRITE	B/C	B		
LAP 03912	~	0.8	L5 CHONDRITE	B	A/B		
LAP 03913	~	4.8	L5 CHONDRITE	C	B		
LAP 03914	~	5.0	LL6 CHONDRITE	A	A/B		
LAP 03915	~	4.4	LL5 CHONDRITE	C	B		
LAP 03916		0.6	IRON-UNGROUPED	B	A		
LAP 03917	~	9.3	L5 CHONDRITE	C	A		
LAP 03918	~	6.1	L5 CHONDRITE	C	A		
LAP 03919	~	4.2	L5 CHONDRITE	C	A		
LAP 03920	~	17.6	H5 CHONDRITE	B	A		
LAP 03921	~	25.5	H5 CHONDRITE	C	A/B		
LAP 03924	~	12.4	LL5 CHONDRITE	A/B	A/B		
LAP 03925	~	13.7	L5 CHONDRITE	B	B		
LAP 03926	~	17.9	LL5 CHONDRITE	B	B		
LAP 03927	~	9.3	L5 CHONDRITE	C	B/C		
LAP 03928	~	23.3	LL5 CHONDRITE	A/B	A		
LAP 03929	~	33.2	LL5 CHONDRITE	B	B		
LAP 03952	~	9.1	H5 CHONDRITE	C	C		
LAP 03953	~	22.6	LL5 CHONDRITE	A	A/B		
LAP 03955	~	6.0	H5 CHONDRITE	C	A		
LAP 03956	~	3.0	LL6 CHONDRITE	B	B		
LAP 03957	~	4.4	LL5 CHONDRITE	A	A/B		
LAP 03958	~	5.6	LL5 CHONDRITE	C	B		
LAP 03959	~	3.7	LL5 CHONDRITE	C	B		
LAP 031010	~	11.5	LL5 CHONDRITE	B	A/B		
LAP 031011	~	25.2	L5 CHONDRITE	B/C	A/B		
LAP 031012	~	18.6	L5 CHONDRITE	B/C	A/B		
LAP 031013	~	7.8	LL5 CHONDRITE	B	A/B		
LAP 031014	~	7.6	L5 CHONDRITE	B	A/B		
LAP 031015	~	10.4	LL5 CHONDRITE	B/C	A		
LAP 031016	~	14.7	L5 CHONDRITE	B	A/B		
LAP 031017		3.1	H4 CHONDRITE	C	B	18	16
LAP 031018	~	5.7	L5 CHONDRITE	B	A/B		
LAP 031019	~	2.3	LL6 CHONDRITE	B	A/B		
LAP 031020	~	5.0	LL5 CHONDRITE	B	A/B		
LAP 031021	~	8.5	LL5 CHONDRITE	A/B	A/B		
LAP 031022		4.2	CM2 CHONDRITE	B	A/B	1-12	1
LAP 031023	~	11.0	L5 CHONDRITE	B/C	A		
LAP 031024	~	3.8	L5 CHONDRITE	C	A/B		
LAP 031025	~	11.2	LL5 CHONDRITE	B/C	B		
LAP 031026	~	5.2	LL5 CHONDRITE	B/C	B		
LAP 031027	~	1.8	LL5 CHONDRITE	B	A/B		
LAP 031028	~	3.8	L5 CHONDRITE	C	A		
LAP 031029	~	6.9	L5 CHONDRITE	C	B		
SAN 03451	~	2863.9	H5 CHONDRITE	C	B/C		
SAN 03452	~	1026.5	LL5 CHONDRITE	A/B	B		
SAN 03453	~	2400.0	LL5 CHONDRITE	CE	B		
SAN 03455	~	1242.1	L5 CHONDRITE	B	A/B		
SAN 03456	~	1373.7	L5 CHONDRITE	B	B		
SAN 03458	~	780.7	LL6 CHONDRITE	B	B		
SAN 03459	~	701.9	LL6 CHONDRITE	B	B		

~Classified by using refractive indices.

Sample Number		Weight (g)	Classification	Weathering	Fracturing	% Fa	% Fs
SAN 03460	~	488.7	LL5 CHONDRITE	B	B		
SAN 03461	~	328.8	L6 CHONDRITE	C	A/B		
SAN 03462	~	321.2	L5 CHONDRITE	B/CE	A/B		
SAN 03463	~	464.7	LL5 CHONDRITE	B	B		
SAN 03468	~	192.3	LL5 CHONDRITE	C	B		
SAN 03469	~	214.9	LL5 CHONDRITE	C	B		
SAN 03490	~	52.6	L5 CHONDRITE	B/C	A		
SAN 03491	~	165.8	L5 CHONDRITE	B/CE	A		
SAN 03492	~	60.5	L5 CHONDRITE	A/B	A		
SAN 03493	~	64.2	LL6 CHONDRITE	A/B	A		
SAN 03494	~	167.4	H5 CHONDRITE	B/C	A		
SAN 03495	~	114.5	L5 CHONDRITE	B/C	A/B		
SAN 03496	~	93.3	LL5 CHONDRITE	A/B	A		
SAN 03497	~	108.3	LL5 CHONDRITE	B/C	A/B		
SAN 03498	~	64.4	H5 CHONDRITE	B/C	A/B		
SAN 03499		152.2	LL5 CHONDRITE	BE	A/B	29	24
CMS 04001	~	406.2	L5 CHONDRITE	C	B/C		
CMS 04002	~	219.7	LL6 CHONDRITE	A	B		
CMS 04003	~	461.3	LL6 CHONDRITE	B	A		
CMS 04006	~	185.4	LL5 CHONDRITE	B	B		
CMS 04007	~	100.5	LL5 CHONDRITE	B	A/B		
CMS 04008	~	167.4	LL5 CHONDRITE	A/B	A/B		
CMS 04009	~	183.3	L5 CHONDRITE	B/C	B		
CMS 04010	~	184.5	LL5 CHONDRITE	B	B		
CMS 04011	~	118.7	LL5 CHONDRITE	A/B	A/B		
CMS 04012	~	145.9	LL5 CHONDRITE	A/B	A/B		
CMS 04013	~	203.6	L5 CHONDRITE	C	B		
CMS 04014	~	138.2	LL5 CHONDRITE	B	A/B		
CMS 04015	~	121.5	LL5 CHONDRITE	A/B	B		
CMS 04017	~	56.5	LL5 CHONDRITE	B	B		
CMS 04018	~	167.4	LL5 CHONDRITE	B	B		
CMS 04019	~	134.9	H6 CHONDRITE	C	B		
CMS 04021		61.3	MESOSIDERITE	A/B	A/B		28-32
CMS 04040	~	30.4	L5 CHONDRITE	C	C		
CMS 04041	~	20.7	LL5 CHONDRITE	B	B		
CMS 04042	~	14.6	LL5 CHONDRITE	A	A/B		
CMS 04043	~	28.6	L6 CHONDRITE	C	A/B		
CMS 04044		20.2	UREILITE	CE	C	10-23	19
CMS 04045	~	31.6	L6 CHONDRITE	C	A/B		
CMS 04046	~	9.0	L5 CHONDRITE	C	B		
CMS 04047		49.5	LL5 CHONDRITE	A/B	A	31	25
CMS 04048		30.3	UREILITE	C	C	3-23	19
CMS 04049		90.2	EUCRITE (UNBRECCIATED)	B	A/B		28-59
CMS 04058		1006.1	LL6 CHONDRITE	A	A/B	30	25
CMS 04061		8465.0	PALLASITE	B/C	A		
CMS 04062		15315.0	PALLASITE	B/C	A		
CMS 04063		6188.3	PALLASITE	B/C	A		
CMS 04064		19195.0	PALLASITE	B/C	A		
CMS 04065		5738.0	PALLASITE	B/C	A		
CMS 04066		5877.0	PALLASITE	B/C	A		
CMS 04067		7561.9	PALLASITE	B/C	A		
CMS 04068		20425.0	PALLASITE	B/C	A		
CMS 04069		44700.0	PALLASITE	B/C	A		

~Classified by using refractive indices.

Sample Number	Weight (g)	Classification	Weathering	Fracturing	% Fa	% Fs
CMS 04070	3515.8	PALLASITE	B/C	A		
CMS 04071	2110.1	PALLASITE	B/C	A	12	
CMS 04072	2312.9	PALLASITE	B/C	A		
CMS 04073	928.2	PALLASITE	B/C	A		
CMS 04074	325.7	PALLASITE	B/C	A		
CMS 04075	9.6	PALLASITE	B/C	A		
CMS 04076	8.3	PALLASITE	B/C	A		
CMS 04077	9625.0	PALLASITE	B/C	A		
CMS 04078	5695.2	PALLASITE	B/C	A		
CMS 04079	12550.0	PALLASITE	B/C	A		
LAR 04315	1164.8	UREILITE (ANOMALOUS)	B/C	B	2-19	
LAR 04316	1163.0	AUBRITE	A	A/B	2	0-2
LAR 04317	10.4	CK4 CHONDRITE	B	A	31-32	
LAR 04318	53.3	CK4 CHONDRITE	A/B	A	29-30	
LAR 04319	1.7	CM2 CHONDRITE	A/B	A/B	0-27	

~Classified by using refractive indices.

Table 2
Newly Classified Specimens Listed by Type

Sample Number	Weight (g)	Classification	Weathering	Fracturing	% Fa	% Fs
Achondrites						
LAR 04316	1163.0	AUBRITE	A	A/B	2	0-2
CMS 04049	90.2	EUCRITE (UNBRECCIATED)	B	A/B		28-59
CMS 04044	20.2	UREILITE	CE	C	10-23	19
CMS 04048	30.3	UREILITE	C	C	3-23	19
LAR 04315	1164.8	UREILITE (ANOMALOUS)	B/C	B	2-19	
Carbonaceous Chondrites						
LAR 04317	10.4	CK4 CHONDRITE	B	A	31-32	
LAR 04318	53.3	CK4 CHONDRITE	A/B	A	29-30	
LAP 031022	4.2	CM2 CHONDRITE	B	A/B	1-12	1
LAR 04319	1.7	CM2 CHONDRITE	A/B	A/B	0-27	
DOM 03238	54.2	CO3 CHONDRITE	B	A	1-55	1
Chondrites - Type 3						
DOM 03219	36.7	H3 CHONDRITE	B	B	8-35	8-19
DOM 03201	114.6	L3 CHONDRITE	C	B	2-31	3-27
Irons						
LAP 03916	0.6	IRON-UNGROUPED	B	A		
Stony Irons						
CMS 04021	61.3	MESOSIDERITE	A/B	A/B		28-32
CMS 04061	8465.0	PALLASITE	B/C	A		
CMS 04062	15315.0	PALLASITE	B/C	A		
CMS 04063	6188.3	PALLASITE	B/C	A		
CMS 04064	19195.0	PALLASITE	B/C	A		
CMS 04065	5738.0	PALLASITE	B/C	A		
CMS 04066	5877.0	PALLASITE	B/C	A		
CMS 04067	7561.9	PALLASITE	B/C	A		
CMS 04068	20425.0	PALLASITE	B/C	A		
CMS 04069	44700.0	PALLASITE	B/C	A		
CMS 04070	3515.8	PALLASITE	B/C	A		
CMS 04071	2110.1	PALLASITE	B/C	A	12	
CMS 04072	2312.9	PALLASITE	B/C	A		
CMS 04073	928.2	PALLASITE	B/C	A		

Sample Number	Weight (g)	Classification	Weathering	Fracturing	% Fa	% Fs
CMS 04074	325.7	PALLASITE	B/C	A		
CMS 04075	9.6	PALLASITE	B/C	A		
CMS 04076	8.3	PALLASITE	B/C	A		
CMS 04077	9625.0	PALLASITE	B/C	A		
CMS 04078	5695.2	PALLASITE	B/C	A		
CMS 04079	12550.0	PALLASITE	B/C	A		

**Notes to Tables 1 and 2:

"Weathering" Categories:

A: Minor rustiness; rust haloes on metal particles and rust stains along fractures are minor.
B: Moderate rustiness; large rust haloes occur on metal particles and rust stains on internal fractures are extensive.
C: Severe rustiness; metal particles have been mostly stained by rust throughout.
E: Evaporite minerals visible to the naked eye.

"Fracturing" Categories:

A: Minor cracks; few or no cracks are conspicuous to the naked eye and no cracks penetrate the entire specimen.
B: Moderate cracks; several cracks extend across exterior surfaces and the specimen can be readily broken along the cracks.
C: Severe cracks; specimen readily crumbles along cracks that are both extensive and abundant.

Table 3
Tentative Parings for New Meteorites

Table 3 summarizes possible pairings of the new specimens with each other and with previously classified specimens based on descriptive data in this newsletter issue. Readers who desire a more comprehensive review of the meteorite pairings in the U.S. Antarctic collection should refer to the compilation provided by Dr. E.R. D. Scott, as published in issue 9(2) (June 1986). Possible pairings were updated in Meteoritical Bulletins No. 76 (Meteoritics 29, 100-143), No. 79 (Meteoritics and Planetary Science 31, A161-174), No. 82 (Meteoritics and Planetary Science 33, A221-A239), No. 83 (Meteoritics and Planetary Science 34, A169-A186), No. 84 (Meteoritics and Planetary Science 35, A199-A225), No. 85 (Meteoritics and Planetary Science 36, A293-A322), No. 86 (Meteoritics and Planetary Science 37, A157-A184), No. 87 (Meteoritics and Planetary Science 38, A189-A248), No. 88 (Meteoritics and Planetary Science 39, A215-A272), and No. 89 (Meteoritics and Planetary Science 40, in press).

CK4 CHONDRITE

LAR 04318 with LAR 04317

PALLASITE

CMS 04062, CMS 04063, CMS 04064, CMS 04065, CMS 04066, CMS 04067, CMS 04068, CMS 04069, CMS 04070, CMS 04071, CMS 04072, CMS 04073, CMS 04074, CMS 04075, CMS 04076, CMS 04077, CMS 04078, and CMS 04079 with CMS 04061

UREILITE

CMS 04048 with CMS 04044

Petrographic Descriptions

Sample No.: **DOM 03201**
Location: Dominion Range
Field No.: 14992
Dimensions (cm): 4.5 x 4.0 x 3.5
Weight (g): 114.635
Meteorite Type: L3 Chondrite

Macroscopic Description: Kathleen McBride
The exterior has 95% shiny brown/black fusion crust. The interior matrix is brownish in color with light tan and rusty colored chondrules, and has a high metal content.

Thin Section (,2) Description: Tim McCoy
The section exhibits numerous large, well-defined chondrules (up to 2 mm) in a black matrix of fine-grained silicates, metal and troilite. Weak shock effects are present. Polysynthetically twinned pyroxene is abundant. Silicates are unequilibrated; olivines range from Fa_{2-31} and pyroxenes from Fs_{3-27}. The meteorite is an L3 chondrite of moderate petrologic type (estimated subtype 3.6).

Sample No.: **DOM 03219**
Location: Dominion Range
Field No.: 14952
Dimensions (cm): 5.0 x 2.5 x 2.0
Weight (g): 36.676
Meteorite Type: H3 Chondrite

Macroscopic Description: Kathleen McBride
90% of the exterior has dull brown/black fusion crust with oxidation halos. The rusty black matrix has a high metal content with a few rusty chondrules. This meteorite is hard.

Thin Section (,2) Description: Tim McCoy
The section exhibits numerous small, well-defined chondrules (up to 1.5 mm) in a black matrix of fine-grained silicates, metal and troilite. Weak shock effects are present. Polysynthetically twinned pyroxene is extremely abundant. Silicates are unequilibrated; olivines range from Fa_{8-35}, with most grains Fa_{19-20}, and pyroxenes from Fs_{8-19}. The meteorite is an H3 chondrite (estimated subtype 3.8).

Sample No.: **DOM 03238**
Location: Dominion Range
Field No.: 14904
Dimensions (cm): 4.0 x 3.5 x 3.0
Weight (g): 54.246
Meteorite Type: CO3 Chondrite

Macroscopic Description: Kathleen McBride
Exterior is completely covered with dull black fusion crust with polygonal fractures. The interior is mostly rusty with high metal and light colored chondrules stained with rust.

Thin Section (,2) Description: Tim McCoy
The section consists of abundant small (up to 1 mm) chondrules, chondrule fragments and mineral grains in a dark matrix. Metal and sulfide occur within and rimming the chondrules. Olivine ranges in composition from Fa_{1-55}, with a continuous range of intermediate compositions and a slight peak at Fa_{0-2}. A single pyroxene is Fs_1. The meteorite is a CO3 chondrite, probably of relatively low petrologic type.

Sample No.: **LAP 03916**
Location: LaPaz Ice Field
Field No.: 16764
Dimensions (cm): 0.75 x 0.5 x 0.5
Weight (g): 0.622
Meteorite Type: Iron-Ungrouped

Macroscopic Description: Tim McCoy
This small, equidimensional meteorite, measuring ~6 mm on a side, exhibits a uniform, rusty external appearance.

Thin Section (,1) Description: Tim McCoy
An end cut of this meteorite with a surface area of ~5 by 6 mm was mounted as a polished thin section and examined. The meteorite consists entirely of kamacite with an average Ni concentration of ~6 wt. %. The only structure revealed by nital etching is several sets of Neumann bands. Many of these bands are subsequently distorted and heat alteration is prevalent at the edges of the section, although weathering appears to have removed any fusion crust. The meteorite is classified as an ungrouped iron, but its small size suggests that it is probably not representative of the larger mass from which it was derived.

Sample No.: **LAP 031022**
Location: LaPaz Ice Field
Field No.: 16018
Dimensions (cm): 2.5 x 1.5 x 1.0
Weight (g): 4.158
Meteorite Type: CM2 Chondrite

Macroscopic Description: Kathleen McBride
The meteorite has black patches of fusion crust over 20% of its surface. The charcoal gray matrix contains white specks.

Thin Section (,2) Description: Tim McCoy
The section consists of numerous small chondrules (up to 1 mm), mineral grains and CAIs set in a black matrix; rare metal and sulfide grains are present. Chondrules exhibit relatively little alteration and are set in a matrix of serpentine. Olivine compositions are Fa_{1-12}, with a peak at Fa_{0-2}; a single pyroxene is Fs_1. The meteorite is a CM2 chondrite.

Sample No.: **CMS 04021**
Location: Cumulus Hills
Field No.: 14615
Dimensions (cm): 5.0 x 3.5 x 2.5
Weight (g): 61.333
Meteorite Type: Mesosiderite Silicate Clast

Macroscopic Description: Kathleen McBride
80% of the exterior is covered by thin, shiny chocolate brown fusion crust. The light gray crystalline matrix has 1-5 mm black angular inclusions, and 1-2 mm yellow and brown inclusions.

Thin Section (,4) Description: Tim McCoy
The section shows a groundmass of comminuted pyroxene, plagioclase, metal and sulfide with larger silicate fragments reaching 2 mm. Orthopyroxene compositions range from $Fs_{28-32}Wo_{2-3}$ (Fe/Mn ~30) and plagioclase is $An_{77-94}Or_{0-2}$. The meteorite is probably a silicate clast from a mesosiderite.

Sample No.: **CMS 04044; CMS 04048**
Location: Cumulus Hills
Field No.: 14002; 14030
Dimensions (cm): 3.0 x 2.5 x 2.5; 2.0 x 2.5 x 2.5
Weight (g): 20.20; 30.27
Meteorite Type: Ureilite

Macroscopic Description: Kathleen McBride
CMS 04044 has a fractured brown exterior. 048 has 60% dull brown/black fusion crust with some polygonal fractures and oxidation. The interiors are rusty, crystalline with fractures. 044 has evaporites present.

Thin Section (,2 ,4) Description: Tim McCoy
The meteorites are so similar that a single description suffices. The sections consist of an aggregate of large olivine and pyroxene grains up to 2 mm across. Individual olivine grains are rimmed by carbon-rich material containing traces of metal. Olivine has cores of Fa_{23}, with rims reduced to Fa_3. Pigeonite is Fs_{19}, $Wo_{7.}$

Sample No.: **CMS 04049**
Location: Cumulus Hills
Field No.: 14086
Dimensions (cm): 6.0 x 2.5 x 3.5
Weight (g): 90.209
Meteorite Type: Eucrite (Unbrecciated)

Macroscopic Description: Kathleen McBride
40% of the exterior is covered with black fusion crust with shiny patches. The interior consists of black and white mineral grains with some gray globs and translucent, tabular shaped minerals.

Thin Section (,4) Description: Tim McCoy
The section shows an unbrecciated intergrowth of coarse (up to 1 mm) pyroxene and plagioclase grains with a gabbroic texture. Pyroxene is exsolved to orthopyroxene ($Fs_{50}Wo_{5}$) and augite ($Fs_{28}Wo_{41}$) (Fe/Mn ~30) and plagioclase is $An_{79-91}Or_{0-1}$. Shock effects are extensive including darkening of silicates. The meteorite is an unbrecciated eucrite.

Sample No.: **CMS 04061-04079**
Location: Cumulus Hills
Field No.: 14682; 14627; 14639; 14614;14076; 14611; 14608;14688;14698; 14660;14669;14693; 14663;14604;14647; 14609;14619;14606; 14664
Dimensions (cm): 23.0 x 17.0 x 10.0; 18.0 x 17.5 x 21.0; 19.0 x 12.0 x 16.0; 37.5 x 19.5 x 15.0; 15.0 x 13.5 x 12.5; 16.5 x 11.5 x 9.5; 10.5 x 20.0 x 14.0; 41.0 x 24.0 x 13.0; 40.0 x 36.0 x 19.5; 16.0 x 9.0 x 10.0; 13.0 x 9.0 x 8.0; 15.5 x 7.5 x 9.5; 12.0 x 8.0 x 10.0; 10.0 x 4.5 x 5.0; 2.0 x 2.0 x 1.0; 2.5 x 1.5 x 1.5; 20.0 x 15.5 x 10.0; 17.5 x 14.5 x 9.5; 19.5 x 14.5 x 15.0
Weight (g): 8465.0; 15315.0; 6188.3; 19195.0; 5738.0; 5877.0; 7561.9; 20425.0; 44700.0; 3515.8; 2110.1; 2312.9; 928.2; 325.7; 9.592; 8.252; 9625.0; 5695.2; 12550.0
Meteorite Type: Pallasite

Macroscopic Description: Tim McCoy and Linda Welzenbach
These meteorites are pallasites with common exterior morphology and weathering. They range in mass from 8.2 g to 44.7 kg. They all exhibit a very weathered, rusty exterior with extensive removal of olivine, leaving voids that range in size from a few millimeters to many centimeters. The larger cavities probably resulted from extensive olivine removal during physical and chemical weathering and weathering of any residual metallic matrix.

Thin Section (,4) Description: Tim McCoy
CMS 04071 was selected for examination. This mass is typical of the group in exterior morphology and weathering and of moderate size (2.11 kg). Two slices were cut from the center of the mass, each measuring ~9 cm by 6 cm. These slices exhibit fragmental, angular olivine grains ranging in size from a hundred microns to 2 cm in size. Olivine grains exhibit extensive iron oxide staining, producing olivine grains that range from brown near the margins of the slice to green in the interior. Interstitial to these grains are euhedral and irregular chromites, as well as troilite and schreibersite. Olivine is Fa_{12} and the texture, mineralogy and even degree of weathering are reminiscent of Imilac. The meteorites are pallasites, probably members of the main group.

Sample No.:	**LAR 04315**
Location:	Larkman Nunatak
Field No.:	15558
Dimensions (cm):	12.5 x 7.0 x 5.0
Weight (g):	1164.8
Meteorite Type:	UREILITE (ANOMALOUS)

Macroscopic Description: Kathleen McBride

Dark brown/black patchy fusion crust covers 65% of the exterior. Exposed interior is dark in color with lighter inclusions. The interior is dark, ultramafic with a few light inclusions. This hard meteorite is rusty and has a coarse grained texture. Weathering is more extensive near the exterior.

Thin Section (,7) Description: Tim McCoy

The section consists of an aggregate of large olivine and pyroxene grains up to 2 mm across. Olivine grains are rimmed by carbon-rich material containing traces of metal. While these metal-bearing rims appear to define individual olivine crystals, those crystals exhibit subdomains a few hundred microns across in transmitted light and no reduction is observed between the subdomains. Olivine has cores of Fa_{19}, with rims reduced to Fa_2. Metal and sulfide form veins between the olivines, with metal often forming rounded blebs within the sulfide. The pyroxene grains are dominantly pigeonite ($Fs_{7-9}Wo_{7-9}$) and exhibit a wormy texture with elongate and irregular voids (graphite-filled?), and inclusions of metal and sulfide (sometimes associated with the voids). Within the pigeonites, but distinct from the voids, are found inclusions of subcalcic augite (Fs7-9Wo24-28) and, in association, an apparently non-stoichiometric phase highly enriched in SiO2, and contains Al2O3.The meteorite is an anomalous ureilite.

Oxygen isotope analysis: J. Farquhar:

$$\delta^{18}O = 7.2 \text{ per mil};\ \Delta^{17}O = -0.8 \text{ per mil}$$

Sample No.	**LAR 04316**
Location:	Larkman Nunatak
Field No.:	15577
Dimensions (cm):	12.0 x 7.0 x 7.0
Weight (g):	1163.0
Meteorite Type:	Aubrite

Macroscopic Description: Kathleen McBride

Very little fusion crust is left on the exterior surface. The three areas of remaining crust are brown/black in color and have the characteristic “bubbly” appearance. There are some areas of yellow crusty material. The interior has a light gray matrix with large, angular white and gray clasts. Smaller clasts are usually white. There is a large 2.5 cm black clast with rust located in the center of the break. The interior contains multiple dark gray to almost black angular clasts with basaltic texture.

Thin Section (,3 ,4 ,7) Description: Tim McCoy

Section ,3 samples a comminuted matrix of essentially FeO-free enstatite (Fs_{0-1}) and diopside (Fs_1Wo_{45}) with grain sizes reaching 3 mm and rarer metal, phosphide, troilite, daubreelite and alabandite. This material makes up the bulk of the meteorite. Two clasts described in the macroscopic description, and apparently in contact in the piece, are an aubrite basalt vitrophyre of the type recently described by Fogel (GCA 69, 1633-1648) composed of enstatite (Fs_2) and forsterite (Fa_2) in a matrix of feldspathic glass and a metal-sulfide quench-textured clast with a single 0.5 mm alabandite grain. The meteorite is an aubrite.

Sample No.:	**LAR 04317; LAR 04318**
Location:	Larkman Nunatak
Field No.:	15551; 15495
Dimensions (cm):	2.0 x 2.0 x 1.0; 4.5 x 2.5 x 3.0
Weight (g):	10.360; 53.304
Meteorite Type:	CK4 Chondrite

Macroscopic Description: Kathleen McBride
~90% of the exterior surface is covered with thick brown/black fusion crust with polygonal fractures. The interiors are composed of gray matrix with large chondrules and are very hard.

Thin Section (,3 ,4) Description: Tim McCoy
These meteorites are so similar that a single description suffices. The sections consist of large (up to 2 mm) chondrules and isolated mineral grains in a matrix of finer-grained silicates, sulfides and very abundant magnetite. Olivine is Fa_{29-32} and calcic pyroxene is $Fs_{10}Wo_{45}$. The meteorites are CK4 chondrites.

Sample No.:	**LAR 04319**
Location:	Larkman Nunatak
Field No.:	15550
Dimensions (cm):	2.5 x 1.0 x 0.5
Weight (g):	1.703
Meteorite Type:	CM2 Chondrite

Macroscopic Description: Kathleen McBride
The exterior of this carbonaceous chondrite is covered with 100% thick brown/black fusion crust with polygonal fractures. The interior is a black matrix with tiny white inclusions.

Thin Section (,3) Description: Tim McCoy
The section consists of numerous small chondrules (up to 1 mm), mineral grains and CAIs set in a black matrix; rare metal and sulfide grains are present. Chondrules exhibit relatively little alteration and are set in a matrix of serpentine. Olivine compositions are Fa_{0-27}, with a strong peak at Fa_{0-2}. The meteorite is a CM2 chondrite.

Sample Request Guidelines

Requests for samples are welcomed from research scientists of all countries, regardless of their current state of funding for meteorite studies. Graduate student requests should have a supervising scientist listed to confirm access to facilities for analysis. All sample requests will be reviewed in a timely manner. Sample requests that do not meet the curatorial allocation guidelines will be reviewed by the Meteorite Working Group (MWG). Issuance of samples does not imply a commitment by any agency to fund the proposed research. Requests for financial support must be submitted separately to an appropriate funding agency. As a matter of policy, U.S. Antarctic meteorites are the property of the National Science Foundation, and all allocations are subject to recall.

Samples can be requested from any meteorite that has been made available through announcement in any issue of the ***Antarctic Meteorite Newsletter*** (beginning with 1(1) in June, 1978). Many of the meteorites have also been described in five *Smithsonian Contributions to the Earth Sciences*: Nos. 23, 24, 26, 28, and 30. Tables containing all classified meteorites (as of August 2005) have been published in the Meteoritical Bulletins 76, 79, and 82-89, available in the following volumes and pages of *Meteoritics* and *Meteoritics and Planetary Science*: 29, p. 100-143; 31, A161-A174; 33, A221-A240; 34, A169-A186; 35, A199-A225; 36, A293-A322; 37, A157-A184; 38, A189-A248; 39, A215-A272; 40 in press. They are also available online at:

http://www.meteoriticalsociety.org/simple_template.cfm?code=pub_bulletin

The most current listing is found online at:

http://curator.jsc.nasa.gov/curator/antmet/us_clctn.htm

All sample requests should be made electronically using the form at:

http://curator.jsc.nasa.gov/curator/antmet/samreq.htm

The purpose of the sample request form is to obtain all information MWG needs prior to their deliberations to make an informed decision on the request. Please use this form if possible.

The preferred method of request transmittal is via e-mail. Please send requests and attachments to:

cecilia.e.satterwhite1@jsc.nasa.gov

Type **MWG Request** in the e-mail subject line. Please note that the form has signature blocks. The signature blocks should only be used if the form is sent via Fax or mail.

Each request should accurately refer to meteorite samples by their respective identification numbers and should provide detailed scientific justification for proposed research. Specific requirements for samples, such as sizes or weights, particular locations (if applicable) within individual specimens, or special handling or shipping procedures should be explained in each request. Some meteorites are small, of rare type, or are considered special because of unusual properties. Therefore, it is very important that all requests specify both the optimum amount of material needed for the study and the minimum amount of material that can be used. Requests for thin sections that will be used in destructive procedures such as ion probe, laser ablation, etch, or repolishing must be stated explicitly.

Consortium requests should list the members in the consortium. All necessary information should be typed on the electronic form, although informative attachments (reprints of publication that explain rationale, flow diagrams for analyses, etc.) are welcome.

The Meteorite Working Group (MWG), is a peer-review committee which meets twice a year to guide the collection, curation, allocation, and distribution of the U.S. collection of Antarctic meteorites. The deadline for submitting a request is 2 weeks prior to the scheduled meeting.

Requests that are received by the MWG secretary by **Sept. 15, 2005** deadline will be reviewed at the MWG meeting **Sept. 29-30, 2005** in Houston, TX. Requests that are received after the deadline may be delayed for review until MWG meets again in the Spring of 2006. **Please submit your requests on time.** Questions pertaining to sample requests can be directed to the MWG secretary by e-mail, fax or phone.

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Meteorites On-Line

Several meteorite web site are available to provide information on meteorites from Antarctica and elsewhere in the world. Some specialize in information on martian meteorites and on possible life on Mars. Here is a general listing of ones we have found. We have not included sites focused on selling meteorites even though some of them have general information. Please contribute information on other sites so we can update the list.

JSC Curator, Antarctic meteorites	http://www-curator.jsc.nasa.gov/curator/antmet/antmet.htm
JSC Curator, martian meteorites	http://www-curator.jsc.nasa.gov/curator/antmet/marsmets/contents.htm
JSC Curator, Mars Meteorite Compendium	http://www-curator.jsc.nasa.gov/curator/antmet/mmc/mmc.htm
Antarctic collection	http://geology.cwru.edu/~ansmet/
LPI martian meteorites	http://www.lpi.usra.edu
NIPR Antarctic meteorites	http://www.nipr.ac.jp/
BMNH general meteorites	http://www.nhm.ac.uk/mineralogy/collections/meteor.htm
UHI planetary science discoveries	http://www.psrd.hawaii.edu/index.html
Meteoritical Society	http://www.meteoriticalsociety.org/
Meteoritics and Planetary Science	http://meteoritics.org/
Meteorite! Magazine	http://www.meteor.co.nz
Geochemical Society	http://www.geochemsoc.org
Washington Univ. Lunar Meteorite	http://epsc.wustl.edu/admin/resources/moon_meteorites.html
Washington Univ. “meteor-wrong”	http://epsc.wustl.edu/admin/resources/meteorites/meteorwrongs/meteorwrongs.htm

Other Websites of Interest

Mars Exploration	http://mars.jpl.nasa.gov
Rovers	http://marsrovers.jpl.nasa.gov/home/index.html
Near Earth Asteroid Rendezvous	http://near.jhuapl.edu/
Stardust Mission	http://stardust.jpl.nasa.gov
Genesis Mission	http://genesismission.jpl.nasa.gov
ARES	http://ares.jsc.nasa.gov/